

## AIR QUALITY PERMIT

Issued To: Williston Basin Interstate Pipeline Company	Permit: #3281-00
South Baker Compressor Station	Application Complete: 9/3/03
Safety & Environmental Affairs	Preliminary Determination Issued: 9/24/03
P.O. Box 131	Department's Decision Issued: 10/17/03
Glendive, MT 59330	Permit Final: 11/04/03
	AFS: # 025-0012

An air quality permit, with conditions, is hereby granted to Williston Basin Interstate Pipeline Company-South Baker Compressor Station (WBI), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### SECTION I: Permitted Facilities

#### A. Permitted Equipment

Permit #3281-00 is issued to WBI for the construction and operation of the South Baker Compressor Station. The facility is a natural gas central compressor station. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

#### B. Plant Location

The facility is located approximately 16 miles southeast of Baker, Montana, in Section 20, Township 5 North, Range 61 East, in Fallon County, Montana.

### SECTION II. Conditions and Limitations

#### A. Emission Limitations

1. WBI shall not operate more than three natural gas compressor engines at any given time. The rich-burn compressor engines shall be fitted with a non-selective catalytic reduction (NSCR) unit and an air to fuel ratio (AFR) controller. The emission limits for each of the engines shall be determined as follows (ARM 17.8.752 and ARM 17.8.749).

Emission Limit (pounds per hour (lb/hr)) = Emission Factor (grams per break horsepower-hour (g/bhp-hr)) \* maximum rated capacity of engine (bhp) \* 0.002205 pounds per gram (lb/g)

2. Each compressor engine shall not have a designed horsepower rating greater than 1,680-horsepower (hp). The emission limit for each engine shall be determined by using the equation in Section II.A.1. in conjunction with the following emission factors (ARM 17.8.749):

NO <sub>x</sub> <sup>1</sup>	1.00 g/bhp-hr
CO	2.00 g/bhp-hr
VOC	0.50 g/bhp-hr

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<sup>1</sup> NO<sub>x</sub> reported as NO<sub>2</sub>.

3. WBI shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6-consecutive minutes (ARM 17.8.304).
4. WBI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. WBI shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

#### B. Testing Requirements

1. Each of the three compressor engines shall be initially tested for nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO), concurrently, to demonstrate compliance with the emission limits established according to Section II.A.1, within 180 days of the initial start up date of the compressor engines. Further testing shall continue on an every-4-year basis or according to another testing/monitoring schedule as may be approved by the Department of Environmental Quality (Department) (ARM 17.8.105 and ARM 17.8.749).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

#### C. Operational Reporting Requirements

1. WBI shall supply the Department with annual production information for all emission points, as required by the Department, in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis, and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. WBI shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745(1), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by WBI as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Notification

WBI shall provide the Department (both the Billings regional office and the Helena office) with written notification of the following information within the specified time periods (ARM 17.8.749).

1. Within 30 days after final permit issuance for Permit #3281-00, WBI shall provide the Department with written notification of the date that construction commenced on the South Baker Central Compressor Station within 30 days after permit issuance.
2. WBI shall provide the Department with the actual start-up date of each of the three compressor engines within 15 days after the actual start-up date of each respective engine.

SECTION III: General Conditions

- A. Inspection – WBI shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if WBI fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department’s decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.

- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by WBI may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Permit Analysis  
Williston Basin Interstate Pipeline Company  
South Baker Compressor Station  
Permit #3281-00

I. Introduction/Process Description

Williston Basin Interstate Pipeline Company (WBI) is permitted for the construction and operation of the South Baker Compressor Station. The facility is a natural gas compressor station located approximately 16 miles southeast of Baker, Montana, in Section 20, Township 5 North, Range 61 East, in Fallon County, Montana.

A. Permitted Equipment

The facility consists of the following equipment:

1. (3) Natural gas compressor engines with a maximum design capacity of 1,680-horsepower (hp) per engine.
2. (1) Glycol dehydration unit up to 0.75 million British thermal units (MMBtu) per hour
3. Miscellaneous support equipment and materials including, but not limited to, tanks, tank heaters, etc.

B. Source Description

The purpose of the WBI – South Baker Compressor Station is to dehydrate and compress natural gas for transmission through the natural gas pipeline. The compression of the gas is accomplished with the compressor engines listed in Section I.A of the permit analysis. The gas is “dried” with a dehydrator, also called a reboiler or glycol unit. The gas is treated with a glycol solution that absorbs the water in the gas stream. The glycol solution is then heated to about 300°F to drive off the water and return the glycol. Burning natural gas in the dehydrator reboilers generates the heat necessary for this activity.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

WBI shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

WBI must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, WBI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions. WBI will burn natural gas in all fuel burning equipment, which will meet this limitation.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not a NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR 60.
8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as listed below:

40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for a natural gas production facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major source of Hazardous Air Pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must also either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. Based on the information submitted by WBI, the South Baker Compressor Station is not subject to the provisions of 40 CFR Part 63, Subpart HH because the facility is not a major source of HAPs.

40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR Part 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end

user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR Part 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR Part 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR Part 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HHH. Based on the information submitted by WBI, the South Baker Compressor Station is not subject to the provisions of 40 CFR 63, Subpart HHH because the facility is not a major source of HAPs.

D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:

1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.402 Requirements. WBI must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for WBI is below the allowable 65-meter GEP stack height.

E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. WBI submitted the appropriate permit application fee for the current permit action.
2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

F. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.



2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. WBI has the potential to emit more than 25 tons per year of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and volatile organic compounds (VOC); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. WBI submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. WBI submitted an affidavit of publication of public notice for the July 18, 2003, issue of the Fallon County Times, a newspaper of general circulation in the Town of Baker, MT, in Fallon County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

G. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit is below 250 tons per year of any pollutant (excluding fugitive emissions).

H. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
  - a. PTE > 100 tons/year of any pollutant;
  - b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

- c. PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
- 2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 require that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3281-00 for WBI, the following conclusions were made.
  - a. The facility's PTE is less than 100 tons/year for any pollutant.
  - b. The facility's PTE is less than 10 tons/year for and one HAP and less than 25 tons/year for all HAPs.
  - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
  - d. This facility is not subject to any current NSPS.
  - e. This facility is not subject to any current NESHAP standards.
  - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
  - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that WBI would be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, WBI will be required to obtain a Title V Operating Permit.

### III. BACT Determination

A BACT determination is required for each new or altered source. WBI shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. A BACT determination is required for each new or modified source. The BACT analysis addresses the available methods for controlling NO<sub>x</sub>, CO, VOC, particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>), and sulfur dioxide (SO<sub>2</sub>) emissions from the proposed project. The Department reviewed previous BACT determinations for internal combustion engines before making the following BACT determination.

#### A. NO<sub>x</sub> BACT

##### 1. Lean-Burn Engine Control Technology Options

###### a. Selective Catalytic Reduction (SCR) Unit

SCR is a post combustion technology that has been shown to be effective in reducing NO<sub>x</sub> emissions from lean burn engines. SCR units can achieve NO<sub>x</sub> control efficiencies as high as 90% for lean burn engines that are operated at a constant load. An SCR unit selectively reduces NO<sub>x</sub> emissions by injecting either liquid anhydrous ammonia or aqueous ammonium hydroxide into the exhaust gas stream prior to the gas stream reaching the catalyst. The catalyst is typically made from noble metals, base metal oxides such as vanadium and titanium, and zeolite-based material. NO<sub>x</sub>, ammonia (NH<sub>3</sub>), and Oxygen (O<sub>2</sub>) react on the surface of the catalyst to form nitrogen

(N<sub>2</sub>) and water (H<sub>2</sub>O). For an SCR unit to operate properly, the exhaust gas must be within a particular temperature range (typically between 450°F and 850°F). The catalyst that is utilized dictates the temperature range. Exhaust gas temperatures greater than the upper limit will pass the NO<sub>x</sub> and NH<sub>3</sub> through the catalyst prior to the reaction. NH<sub>3</sub> emissions, called ammonia slip, are a key consideration when specifying an SCR unit.

b. Air Fuel Ratio (AFR) Controller

Installing an electronic AFR controller can stabilize the NO<sub>x</sub> and CO emissions from a lean-burn engine. This device maintains the proper air to fuel ratio that will optimize the performance of the lean burn engine. A lean-burn engine with an AFR controller achieves approximately the same reduction in emissions as a rich-burn engine fitted with an NSCR unit and an AFR controller.

c. No Additional Controls

This practice would consist of operating the lean-burn natural gas compressor engines without any add-on pollution control equipment. The lean-burn engine uses a precombustion chamber to enclose a rich mixture of air and fuel; the mixture is then ignited in this chamber. The resulting ignition front fires into the larger main cylinder that contains a much leaner fuel mixture. Staging the combustion and burning a leaner fuel mixture results in lower peak flame temperatures. Lower combustion temperature assures lower NO<sub>x</sub> concentration in the exhaust gas stream; however, excess air in the fuel/air mixture can result in increased CO emissions.

2. Rich-Burn Engine Control Technology Options

a. Non-Selective Catalytic Reduction (NSCR) Unit and an AFR Controller

An NSCR unit controls NO<sub>x</sub> emissions by using the CO and the residual hydrocarbons in the exhaust of a rich-burn engine as a reducing agent for NO<sub>x</sub>. Without the catalyst, in the presence of oxygen, the hydrocarbons will be oxidized instead of reacting with NO<sub>x</sub>. As the excess hydrocarbon and NO<sub>x</sub> pass over a honeycomb or monolithic catalyst (usually a combination of noble metals such as platinum, palladium, and/or rhodium), the reactants are reduced to N<sub>2</sub>, H<sub>2</sub>O, and carbon dioxide (CO<sub>2</sub>). The noble metal catalyst usually operates between 800 degrees Fahrenheit (°F) and 1,200°F; therefore, the unit would normally be mounted near the engine exhaust to maintain a high enough temperature to allow the various reactions to occur. In order to achieve maximum performance, 80% to 90% reduction of NO<sub>x</sub> concentration, the engine needs to burn a rich fuel mixture, causing the engine to operate less efficiently.

In order to provide for the most effective use of the catalyst in an NSCR unit, it is necessary to install an electronic AFR controller (described in Section III.A(2)(d)). This device maintains the proper air/fuel ratio that will optimize the degree of reducing agents in order to provide maximum emission reduction while minimizing agents that can poison the catalyst.

b. NSCR

An NSCR unit controls NO<sub>x</sub> emissions by using the CO and the residual hydrocarbons in the exhaust of a rich-burn engine as a reducing agent for NO<sub>x</sub> (described in Section III.A(2)(a)).

c. Prestratified Charge

Prestratified charge combustion is a retrofit system that is limited to 4-stroke carbureted natural gas engines. In this system, controlled amounts of air are introduced into the intake manifold in a specified sequence and quantity to create a fuel-rich and fuel-lean zone. This stratification provides both a fuel-rich ignition zone and rapid flame cooling in the fuel-lean zone, resulting in reduced formation of NO<sub>x</sub>. A prestratified charge kit generally contains new intake manifolds, air hoses, filters, control valves, and a control system.

d. AFR Controller (NO<sub>x</sub> control at the Crossover Point)

In this process, the proper air-to-fuel ratio is obtained by adjusting the engine to operate at the crossover point, where NO<sub>x</sub> and CO emissions are equal. At the crossover point, the engine operates neither too lean nor too rich. Excess hydrocarbon in a rich fuel mixture causes incomplete combustion; thus, lowering the exhaust temperature to a point where the concentration of NO<sub>x</sub> decreases, but the concentration of CO increases. Combustion of a lean fuel mixture occurs at higher temperatures accompanied by higher concentration of NO<sub>x</sub> but a lower concentration of CO.

An engine can operate manually at the crossover point; however, the engine must be tuned frequently to account for operational changes such as varying engine load, operating temperature, fuel gas quality, etc. Manual operation would result in much higher NO<sub>x</sub> and CO emissions than if an AFR unit were used.

e. No Additional Controls

This practice would consist of operating the rich-burn natural gas compressor engines without any add-on pollution control equipment. The rich-burn engine may fluctuate between rich fuel mixtures and lean fuel mixtures (fuel combustion described in Section III.A(2)(d)). This fluctuation would make it difficult to control either NO<sub>x</sub> or CO emissions.

3. Summary

While no additional controls would have no energy or economic impacts on WBI, no additional controls would have negative impacts on air quality. Therefore, the Department determined that no additional controls will not constitute BACT for the natural gas compressor engines.

The previously discussed NO<sub>x</sub> control technologies may be effective in reducing NO<sub>x</sub> emissions from natural gas fired compressor engines. Both lean-burn engines and rich-burn engines with NSCR/AFR result in the top level of control for NO<sub>x</sub> emissions. The Department considered lean-burn technology for the proposed project; however, there is not a lean-burn engine manufactured with an equivalent horsepower (hp) rating as the proposed 1,680 hp engines. WBI would either have to purchase twelve 400 hp lean-burn engines or three 1,780 hp lean-burn engines. The cost for the twelve lean-burn engines would make the proposed project economically unreasonable. The larger 1,780 hp lean-

burn engines cost approximately \$55,000 more than the proposed rich-burn engines. In addition, the hp rating for these engines is above and beyond the needed hp for the proposed project. This excess hp will result in unused energy and excess fuel consumption. Furthermore, the lean-burn engines would need additional controls (oxidation catalyst) to control CO emissions. As discussed in the CO BACT Summary, this additional control would cost approximately \$3,000 per ton reduction of CO.

The Department determined that the use of NSCR/AFR and the rich-burn compressor engines would be the best control technology to achieve a NO<sub>x</sub> emission rate less than or equal to 1.0 gram per brake horsepower-hour (g/bhp-hr), which the Department considers BACT for natural gas fired compressor engines. The control options and emission limits selected are consistent with other recently permitted similar sources.

## B. CO BACT

### 1. Lean-Burn Engine Control Technology Options

#### a. Catalytic Oxidation

Catalytic Oxidation is a post combustion technology that has been applied to oxidize CO emissions from lean-burn engines. In a catalytic oxidation system, CO passes over a catalyst, usually a noble metal, which oxidizes the CO to CO<sub>2</sub> at efficiencies of 70-90%.

#### b. AFR Controller

An AFR Controller (described in Section III.A(1)(b)) may be used to adjust the fuel mixture. However, adjusting the AFR towards a lean fuel mixture to limit CO emissions would increase NO<sub>x</sub> emissions.

#### c. No Additional Controls

This practice would consist of operating the lean-burn natural gas compressor engines without any add-on pollution control equipment. As mentioned in Section III.A(1)(c) of this permit analysis, lean-burn engines inherently operate with lower NO<sub>x</sub> emissions at the expense of increased CO emissions.

### 2. Rich-Burn Engine Control Technology Options

#### a. AFR Controller

An AFR Controller (described in Section III.A(2)(d)) may be used to adjust the fuel mixture. However, adjusting the AFR towards a lean fuel mixture to limit CO emissions would increase NO<sub>x</sub> emissions.

#### b. No Additional Controls

This practice would consist of operating the rich-burn natural gas compressor engines without any add-on pollution control equipment. The rich-burn engine may fluctuate between rich fuel mixtures and lean fuel mixtures (fuel combustion described in Section III.A(2)(d)). This fluctuation would make it difficult to control either NO<sub>x</sub> or CO emissions.

### 3. Summary

While no additional controls would have no energy or economic impacts on WBI, no additional controls would have negative impacts on air quality. Therefore, the Department determined that no additional controls will not constitute BACT for the natural gas compressor engines.

The Department considered all of the above control technologies for the control of CO emissions from the proposed project. Although the use of an oxidation catalyst on a lean-burn engine would have the highest CO control efficiency of the previously listed control technologies, WBI's cost associated with this technology would be excessive at approximately \$3,000 per ton of CO reduction.

The Department determined that the use of NSCR/AFR and the proposed rich-burn engines would be the best control technology to achieve a CO emission rate less than or equal to 2.0 g/hp-hr, considering economic, energy, and environmental impacts. The control options and emission limits selected are consistent with other recently permitted similar sources and constitute BACT.

#### C. VOC BACT

The potential VOC emissions for the proposed project are relatively low and WBI has requested an emission rate of 0.5 g/bhp-hr, which the Department considers BACT for the proposed natural gas fired compressor engines. Therefore, the Department determined that additional VOC control requirements would not be necessary. The control options and emission limits selected are consistent with other recently permitted similar sources and constitute BACT.

#### D. SO<sub>2</sub>/PM<sub>10</sub> BACT

The combustion of natural gas in the proposed rich-burn compressor engines produces very low PM<sub>10</sub> and SO<sub>2</sub> emissions. Furthermore, the cost to control these emissions would be economically unreasonable. Therefore, the Department determined that no control would constitute BACT for the proposed project. The control options and emission limits selected are consistent with other recently permitted similar sources.

### IV. Emission Inventory

Source	Ton/year				
	PM <sub>10</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>
1,680-hp Compressor Engine (EU1)	0.61	16.21	8.10	32.46	0.04
1,680-hp Compressor Engine (EU2)	0.61	16.21	8.10	32.46	0.04
1,680-hp Compressor Engine (EU3)	0.61	16.21	8.10	32.46	0.04
0.75 MMBtu/hr Dehydrator #1	0.03	0.44	0.02	0.37	0.00
Miscellaneous Tanks (21)	0.00	0.00	8.00	0.00	0.00
Total	1.86	49.07	32.32	97.75	0.12

**1,680-hp Compressor Engines (3 Engines)**

Brake Horsepower: 1680 bhp

Hours of operation: 8760 hr/yr

PM<sub>10</sub> Emissions

Emission Factor: 9.50E-03 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)

Fuel Consumption: 14.28 MMBtu/hr (Maximum Design)

Calculations: 14.28 MMBtu/hr \* 9.50E-03 lb/MMBtu = 0.14 lb/hr

0.14 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.61 ton/yr

NO<sub>x</sub> Emissions

Emission factor: 1.00 gram/bhp-hour (BACT Determination)

Calculations: 1.00 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 3.70 lb/hr

3.70 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 16.21 ton/yr

VOC Emissions

Emission factor: 0.5 gram/bhp-hour (BACT Determination)

Calculations: 0.5 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 1.85 lb/hr

1.85 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 8.10 ton/yr

CO Emissions

Emission factor: 2.00 gram/bhp-hour (BACT Determination)

Calculations: 2.00 gram/bhp-hour \* 1680 bhp \* 0.002205 lb/gram = 7.41 lb/hr

7.41 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 32.46 ton/yr

SO<sub>2</sub> Emission

Emission factor: 5.88E-04 lb/MMBtu (AP-42, Chapter 3, Table 3.2-3, 7/00)

Fuel Consumption: 14.28 MMBtu/hr (Maximum Design)

Calculations: 14.28 MMBtu/hr \* 5.88E-04 lb/MMBtu = 0.01 lb/hr

0.01 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 0.04 ton/yr

**Up to 0.75 MMBtu/hr Dehydration Unit (1 unit)**

Heat Output: 0.75 MMBtu/hr (Maximum Design)

Hours of Operation: 8760 hr/yr

Fuel Heating Value: 0.001 MMScf/MMBtu

Fuel Consumption: 0.75 MMBtu/hr \* 0.001 MMScf/MMBtu \* 8760 hr/yr = 6.57 MMScf/yr

PM<sub>10</sub> Emissions

Emission Factor: 6.57 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)

Calculations: 6.57 lb/MMScf \* 8.76 MMScf/yr \* 0.0005 ton/lb = 0.03 ton/yr

NO<sub>x</sub> Emissions

Emission factor: 100 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)

Calculations: 100 lb/MMScf \* 8.76 MMScf/yr \* 0.0005 ton/lb = 0.44 ton/yr

VOC Emissions

Emission factor: 5.5 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)

Calculations: 5.5 lb/MMScf \* 8.76 MMScf/yr \* 0.0005 ton/lb = 0.02 ton/yr

CO Emissions

Emission factor: 84 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)

Calculations: 84 lb/MMScf \* 8.76 MMScf/yr \* 0.0005 ton/lb = 0.37 ton/yr

SO<sub>2</sub> Emission

Emission factor: 0.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)

Calculations: 0.6 lb/MMScf \* 8.76 MMScf/yr \* 0.0005 ton/lb = 0.00 ton/yr



**Miscellaneous (water, oil, & triethylene glycol) Tanks (21 units)**

VOC Emissions

	<u>Tanks</u>	<u>Emissions</u>	
Calculations:	(3) 50 gal Engine Jacket Water Tanks (EG/Water)	< 1 ton/yr	(Company Estimate)
	(3) 500 gal Ethylene Glycol Tanks (EG/Water makeup)	< 1 ton/yr	(Company Estimate)
	(3) 120 gal Compressor Crankcase Oil Tanks	< 1 ton/yr	(Company Estimate)
	(3) 230 gal Engine Crankcase Oil Tanks	< 1 ton/yr	(Company Estimate)
	(3) 350 gal Compressor Lubricator Oil Tanks	< 1 ton/yr	(Company Estimate)
	(3) 500 gal Waste Oil Tanks	< 1 ton/yr	(Company Estimate)
	(1) 1,000 gal Triethylene Glycol Tanks	< 1 ton/yr	(Company Estimate)
	<u>(1) Slop Oil Tank</u>	<u>&lt; 1 ton/yr</u>	<u>(Company Estimate)</u>
	Tank Total	< 8 ton/yr	

- Tank emissions are conservative because the tanks store oil, water, and glycol, which are relatively non-volatile liquids.

**V. Existing Air Quality**

The WBI South Baker Compressor Station is located in Section 20, Township 5 North, Range 61 East, in Fallon County, Montana. Fallon County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

**VI. Taking or Damaging Implication Analysis**

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

**VII. Environmental Assessment**

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Permitting and Compliance Division**  
**Air and Waste management Bureau**  
**P.O. Box 200901, Helena, Montana 59620**  
**(406) 444-3490**

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* Williston Basin Interstate Pipeline Company  
South Baker Compressor Station  
Safety & Environmental Affairs  
P.O. Box 131  
Glendive, MT 59330

*Air Quality Permit number:* 3281-00

*Preliminary Determination Issued:* 9/24/03

*Department Decision Issued:* 10/17/03

*Permit Final:* 11/04/03

1. *Legal Description of Site:* WBI – South Baker Compressor Station would be located in Fallon County, Montana, approximately 16 miles southeast of the town of Baker. The legal description would be Section 20, Township 5 North, Range 61 East.
2. *Description of Project:* WBI proposes to construct and operate a natural gas compressor station. The facility would consist of three 1,680 hp natural gas fired compressor engines, one glycol dehydration unit, and associated equipment. The facility is a central compressor station that receives natural gas from nearby production field facilities and dehydrates and compresses the natural gas for transmission through the pipeline.
3. *Objectives of Project:* The proposed project would provide additional business and revenue for WBI by allowing the company to gather and sell larger quantities of natural gas. Natural gas would be received from nearby production field facilities and the WBI- South Baker Compressor Station would dehydrate and compress the gas for transmission through a natural gas pipeline.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the Air Quality Preconstruction Permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because WBI demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #3281-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability, and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air, and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

Minor impacts on terrestrial or aquatic life and habitats would be expected from the proposed project because deer, antelope, coyotes, geese, ducks, and other terrestrials would potentially use the area around the facility and because the facility would be a source of air pollutants. The facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor. In addition, minor land disturbance would occur to construct the facility. Any impacts from facility construction would be minor due to the relatively small size of the project. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity, and Distribution

Minor impacts would be expected on water quality, quantity, and distribution from the proposed project because the facility would be a source of air pollutants. The facility would emit air pollutants and corresponding deposition of pollutants would occur; however, as described in Section 7.F. of this EA, the Department determined that the chance of deposition of pollutants impacting water quality, quantity, and distribution would be minor. The facility is a central compressor station, not a production field facility; therefore, no discharges into surface water would occur from operating the facility. However, minor amounts of water may be required to control fugitive dust emissions from the access roads and the general facility property.

Further, water quality, quantity, and distribution would not be impacted from constructing the facility because there is no surface water at, or relatively close to, the site. Furthermore, no discharges into surface water would occur, and no use of surface water would be expected for

facility construction. Therefore, no impacts to water quality, quantity, and distribution would be expected from facility construction. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability, and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because minor construction would be required to develop the facility. Small buildings would be constructed, natural gas pipelines would be installed, and an access road would be developed. In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the geology and soil quality, stability, and moisture from facility construction would be minor due to the relatively small size of the project.

Deposition of pollutants would occur; however, as described in Section 7.F of this EA, the Department determined that the chance of deposition of pollutants impacting the geology and soil in the areas surrounding the site would be minor. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur on vegetation cover, quantity, and quality because minor construction would be required to develop the facility. Small buildings would be constructed, natural gas pipelines would be installed, and an access road would be developed.

In addition, no discharges, other than air emissions, would occur at the facility. Any impacts to the vegetation cover, quantity, and quality from facility construction would be minor due to the relatively small size of the project.

The facility would be a source of air pollutants, and corresponding deposition of pollutants would occur; however, as described in Section 7.F of this EA, the Department determined that the chance of deposition of pollutants impacting the vegetation in the area surrounding the site would be minor. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

Minor aesthetic impacts would result because the facility would be a new facility. Small buildings would be constructed to house the engines, natural gas pipelines would be installed, and an access road would be developed. In addition, the facility would create additional noise in the area. However, the buildings constructed to house the engines would limit the additional noise to a certain extent. Overall, any aesthetic impacts would be minor.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM<sub>10</sub>; NO<sub>x</sub>; CO; VOC; and SO<sub>x</sub>. Deposition of these pollutants may occur. However, the Department determined that any air quality impacts from deposition would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions placed in Permit #3281-00. Conditions would include, but would not be limited to BACT emission limits and opacity limitations. Therefore, any impacts to air quality from the proposed facility would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Due to the minor amounts of construction that would be required, the relatively low levels of pollutants that would be emitted, and because the NRIS search did not identify any species of special concern in the immediate vicinity of the proposed facility, the Department determined that it would be unlikely that the proposed project would impact any species of special concern and that any potential impacts would be minor.

H. Demands on Environmental Resource of Water, Air, and Energy

The proposed project would have minor impacts on the demands for the environmental resources of air and water because the facility would be a source of air pollutants. Deposition of pollutants would occur as a result of operating the facility; however, as explained in Section 7.F of this EA, the Department determined that any impacts on air and water resources from the proposed project would be minor.

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because power would be required at the site. The impact on the demand for the environmental resource of energy would be minor because the facility would be relatively small by industrial standards. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites located near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there are not any previously recorded historic or archaeological sites within the proposed area. In addition, SHPO records indicated that a few previously conducted cultural resource inventories have been conducted in the area. Based on these inventories SHPO expressed a low likelihood that cultural properties would be impacted as a result of this project. The Department determined that the chance of the project impacting any historical and archaeological sites in the area would be minor.

J. Cumulative and Secondary Impacts

The cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project. Only small amounts of construction and land disturbance would be required to complete the project. Noise impacts would be minor due to the relatively small size of the facility and the fact that the engines would be housed within buildings. There is potential for other operations to locate near the site that the facility would use. However, any operations would have to apply for and receive the appropriate permits from the Department prior to operation. These permits would address the environmental impacts associated with the operations at the proposed site. Overall, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3281-00 and any impacts to the physical and biological environment would be minor.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			X			Yes
B	Cultural Uniqueness and Diversity			X			Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population			X			Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department:

A. Social Structures and Mores

The proposed project would cause minor, if any, disruptions to native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project would take place in a relatively remote location and the facility would be relatively small by industrial standards. The nearest home not associated with the project would be approximately 2 miles northwest of the facility. Additional activity (vehicle traffic, construction equipment, etc.) would be noticeable during facility construction; however, compressor stations typically do not require day-to-day employees and once the facility is constructed, activities associated with the operation of the facility would be minor. Overall, any impacts to the social structures and mores in the area would be minor.

B. Cultural Uniqueness and Diversity

The proposed project would cause minor, if any impacts to the cultural uniqueness and diversity of the area because the proposed project would take place in a relatively remote location and the facility would be relatively small by industrial standards. The nearest home not associated with the project would be approximately 2 miles northwest of the facility. Additional activity (vehicle traffic, construction equipment, etc.) would be noticeable during facility construction; however, compressor stations typically do not require day-to-day employees and once the facility is constructed, activities associated with the operation of the facility would be minor. Overall, any impacts to the social structures and mores in the area would be minor.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in only minor impacts to the local and state tax base and tax revenue because only one or two employees would be expected as a result of constructing the facility. In addition, only minor amounts of construction would be needed to complete the project; therefore, any construction related jobs would be temporary.

#### D. Agricultural or Industrial Production

The land at the proposed location is rural agricultural grazing land. Because the facility would be relatively small, the proposed project would result in only a minor disturbance to a relatively small amount of rural agricultural grazing land. The proposed project would have minor impacts to industrial production because the proposed project would be a new industrial source locating in the proposed area. While emissions of air pollutants and corresponding deposition of pollutants would occur (as Section 7.F of this EA), the Department determined that the chance of deposition of pollutants impacting agricultural or industrial production in the area surrounding the site would be minor. Overall, any impacts to agricultural or industrial production would be minor.

#### E. Human Health

The proposed project would result in only minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health.

#### F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would have minor, if any, impacts on access to recreational and wilderness activities because of the relatively remote location and the relatively small size of the facility. The proposed project would have minor impacts on the quality of recreational and wilderness activities in the area because the facility, while relatively small by industrial standards, would be visible and would produce noise.

#### G. Quantity and Distribution of Employment

The proposed project would have minor, if any, impacts on the quantity and distribution of employment because no permanent employees would be hired as a result of the proposed project. Current WBI employees would be responsible for the day-to-day operation of the facility. In addition, temporary construction-related positions may result from this project but any impacts to the quantity and distribution of employment from construction related employment would be minor due to the relatively small size of the facility and the corresponding relatively short time period that would be associated with constructing the facility.

#### H. Distribution of Population

The proposed project would have minor, if any, impacts on the distribution of population in the area because the facility would be located in a relatively remote location and the proposed project would not create any permanent jobs. Therefore, no people would be moving to the area for employment opportunities.

#### I. Demands for Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue Permit #3281-00 and to assure compliance with applicable rules, standards, and Permit #3281-00. In addition, there would be minor impacts on the demands for government services to regulate the increase in vehicle traffic that would be associated with constructing and operating the facility. The increase in vehicle traffic would be primarily during facility construction because compressor stations typically do not require day-to-day employees. However, vehicle traffic during construction would be minor due to the relatively short

time period that would be required to construct the facility. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the relatively small size of the facility.

J. Industrial and Commercial Activity

The proposed project may represent a minor increase in the industrial activity in the area during construction of the project, but no additional industrial or commercial activity would result solely from the operation of the facility. Any impacts to industrial and commercial activities in the area would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would be affected by issuing Permit # 3281-00. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) changes resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3281-00.

Recommendation: No EIS is required.

The current permitting action is for the construction and operation of a natural gas compressor station. Permit #3281-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air and Waste Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Carson Coate  
Date: 8/7/03